obscuration, as was predicted, the limb of the sun is cooler than its center, as we have abundant reason to suppose.

At the New York Meteorological Observatory, Central Park, New York City, where the eclipse was very nearly total, the radiation at the time of maximum obscuration was almost negligible. It did not exceed 0.002 gram-calories per minute per square centimeter or about 1 per cent of the radiation intensity we would have expected had there been no eclipse.

SPECIAL AEROLOGICAL OBSERVATIONS DURING THE SOLAR ECLIPSE OF JANUARY 24, 1925

By L. T. SAMUELS

[Weather Bureau, Washington, D. C.]

Instructions were issued to the six aerological stations to begin their kite flights on this day in time for the kites to attain their greatest possible altitude from one-half to one hour before the eclipse began. This altitude was to be maintained as nearly constant as possible until an equal lapse of time after the eclipse had ended. In addition to the single Marvin meteorograph which is ordinarily placed in the first kite a second instrument of the same type was placed in the last kite in order to obtain a record of conditions nearer the ground as well.

The fact that this eclipse occurred so near the time of sunrise at these stations, however, rendered the observations far less satisfactory than if it had taken place several hours later in the day. Another unfortunate circumstance was the fact that none of the stations lay in the path of totality.

The records from Ellendale, N. Dak., and Groesbeck, Tex., are the only ones which contain any evidence of a probable positive nature. The table given contains data which were obtained by the instrument in the last kite or that nearest the ground at each of these stations.

The fall in temperature at Ellendale is rather striking, since it occurs with very little change in altitude and coincides with a retardation in the ordinary diurnal temperature rise at the surface. It seems significant that, as indicated in the table, there was an almost complete recovery of temperature at this station within a short time following the eclipse. It is interesting also to note in this connection that the corresponding change in relative humidity is not as great as such a temperature change demands, providing the absolute humidity remains unchanged. In this case, however, the latter apparently decreased considerably.

	Time, a. m.	Altitude	Temperature	Relative humidity	Vapor pressure	Wind direction	Wind velocity
		m.	*°C.*	*Per cent*	*mb.*		*m. p. s.*
Ellendale, N. Dak.	8:02	495	−2.2	70	3.75	WNW	11.3
	8:39	533	−7.0	72	2.45	WNW	10.8
	9:14	557	−4.7	73	3.02	WNW	11.3
Groesbeck, Tex.	7:46	683	8.5	33	3.66	W	10.8
	8:08	741	9.0	25	2.87	W	10.4
	8:48	752	8.1	28	3.02	W	10.4

At Groesbeck a fall in temperature is also noted, although of lesser magnitude. At this station, however, the surface temperature dropped about 1° F. during the maximum phase of the eclipse, shortly after it had started upward in its ordinary diurnal march.

The degrees of totality at Ellendale and Groesbeck were 95 per cent and 65 per cent, respectively.

METEOROLOGICAL CONDITIONS ON BAKER AND HOWLAND ISLANDS

[Extracted from a report by Walter G. Ramsay, Weather Bureau Office, Honolulu, Hawaii]

A scientific expedition under the auspices of the Bernice P. Bishop Museum of Honolulu, Hawaii, visited Baker and Howland Islands the latter part of September, 1924, for the purpose of collecting specimens of plant and animal life for study. These islands belong to the United States and are situated near the Equator in about 178° west longitude.

Mr. Walter G. Ramsay of the Honolulu office of the United States Weather Bureau, accompanied the expedition as meteorologist, detailed to make surface and upper-air observations. The expedition left Honolulu on board the U. S. S. *Whippoorwill* September 15 and returned October 7. One day was spent on Baker Island, and three days on Howland Island, the latter being the larger of the two.

The following excerpts (certain changes having been made in the sequence of the items), are taken from Mr. Ramsay's report to the Bishop Museum:

Observations of wind directions and velocities taken by ships in the vicinity of these islands during the past few years, and tabulated by the United States Weather Bureau, indicate that the two islands are practically between the northeast trades and southeast trades. During the months June to November, inclusive, when the northeast trades are farthest north, the islands are on the edge of the southeast trade winds; during December to May when the northeast trades are closest to the Equator, they are on the edge of the northeast trades. At no time of year are they in the so-called doldrums, or belt of equatorial calms. In fact, the doldrums do not seem to exist as far west as these islands.

At all times of year, whether under the influence of the northeast or southeast trades, the prevailing direction of the wind in this vicinity is east, with a northerly tendency in the former case, and a southerly in the latter. The maximum velocity varies from 15 to 25 miles an hour, with comparatively few calms each year.

On the recent trip to these islands the wind was found to be comparatively steady both as to direction and force. The prevailing direction was slightly south of east during the daytime, and is believed to have veered somewhat at night, shifting to southwest for a short time. The highest velocity was attained during midafternoon, and was about 15 miles an hour. Shortly before sunset the wind died down, the velocity remaining low until shortly after sunrise, when it again increased to its usual velocity of 8 to 10 miles an hour.

As the accompanying tables of temperature readings show, there was quite a large daily range between maximum and minimum temperatures, on Howland Island. As no maximum or minimum thermometers were carried on the expedition, it is impossible to state exactly either the maximum or minimum temperatures. However, the observer feels positive that the maximum and minimum temperatures as estimated are conservative rather than extreme, and are not in error more than half a degree. From them the range is seen to be 16° or 17°. This is not what was expected. At Honolulu the range is seldom more than 9° or 10°, and as these islands are quite small it was not expected that there would be more than 6° or 8° difference in temperature between night and day readings. The temperature of the water, probably, does not vary more than 2° or 3°. It would seem that the coral sands of which the island is composed quickly absorb considerable heat during the day, raising the daytime temperature, and once the sun has set quickly radiate their heat, lowering the temperature during the late night.